Remarks

Applicants and the undersigned reviewed this Office Action carefully before preparing this response. Reconsideration and allowance of the application is respectfully requested in light of this submission.

Claims 15 and 18-22 are allowed, Claims 16 and 17 have been amended, and Claims 23 and 24 are added.

The Examiner rejected Claim 16 under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 3,814,007 to Lumby. Further, the Examiner rejected Claim 17 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,386,099 to Otsuka et al. in view of U.S. Patent No. 6,165,528 to Tanaka et al. In light of the amendments presented herein, Applicants respectfully disagree with the Examiner's rejections.

Claims 16 and 17 have been amended to more positively recite that the injection head is in fluid communication with the air booster pump and includes one or more nozzles, wherein the nozzles are spaced apart from the injection subject during an injection, i.e. when liquid injectate is injected into the subject. The amendment merely clarifies the configuration of the injection head which comprises apertures, spaces, and/or nozzles for release of the liquid injectate into an injection subject. New independent Claim 24 has been added and also contains the limitation that the nozzles are spaced apart from the injection subject when liquid injectate is injected into the subject.

Lumby discloses an injecting apparatus for introducing liquid into a meat subject having an injector head and one or more nozzles (12-19) intended to engage the object being injected during an injection operation (see col. 9, lines 40-44). As recited in the specification, Lumby teaches an injector head that is positioned in such a manner that all of the nozzles (12-19) directly contact and conform to the injection subject (meat or fowl) during an injection operation in

order to achieve the desired injection effect (see col. 4, lines 49-55; col. 5, lines 1-4; and Claim 1). The nozzles, together with the engaging member 90, hold the subject in place for injection (see col. 5, lines 32-40; col. 9, lines 9-12). Accordingly, there is no spacing between the nozzles and the subject when the liquid is injected into the subject.

For these reasons, the Lumby patent does not disclose Applicants' invention and is an inappropriate reference on which to base anticipation. In particular, Lumby does not disclose an injection apparatus having nozzles that are spaced apart from the injection subject during an injection operation (i.e. when liquid is being injected into the subject). Lumby only teaches nozzles in contact with and conforming to the surface of the subject during injection. Clearly, such a limitation is not disclosed, suggested or even contemplated by the Lumby reference. Thus, in light of the foregoing, it is believed that Claim 16 and Claim 24 are distinguishable and patentable over the Lumby reference.

Claim 17 has been amended as described herein. Claim 23 has been added to recite that each of the heads includes a plurality of nozzles that are spaced apart from the subject during injection of the subject.

In the 35 U.S.C. § 103 rejection of Claim 17, Otsuka is cited for teaching a high speed pickle injector having injecting sections for injecting liquid into a meat subject while the subject is being continuously conveyed along the machine. The injecting sections contain injection nozzles, preferably coherent stream nozzles, for injecting the liquid during the injection (see col. 3, lines 31-38). Unlike the present claims, the Otsuka reference teaches an injection manifold and nozzles that touch or butt against the meat subject during an injection operation (see col. 3, lines 53-62). Indeed, in order for Otsuka to work for its intended purpose (to uniformly and efficiently inject liquid into a meat subject traveling on a continuous conveyor system), the injection section is lowered to a position in which the

nozzles directly contact the meat subject (see col. 5, lines 42-59). The nozzles stay in direct contact with the subject until the injection operation is complete. There is no discussion, teaching or suggestion in Otsuka of an injection apparatus having nozzles that are spaced apart from the meat subject when an injection operation is performed.

Likewise, Tanaka discloses a pickle injector for uniformly injecting brine into a meat subject in which damage to the meat subject is minimized, and which liquid does not pass through the meat. Tanaka specifically describes the requirements of flow rate, injection pressure and nozzle size with respect to nozzles that directly contact the meat subject during an injection operation (see col. 15, lines 51-54). Further, Tanaka teaches that if the nozzles are spaced apart from the meat subject, i.e. if there is clearance between the nozzles and the green meat, dispersion of the injectate within the meat is poor (see col. 15, lines 56-60). Thus, the Tanaka patent teaches a pickle injector and injecting method only with reference to injection nozzles that directly contact the meat subject when the liquid is injected into the subject (see col. 17, lines 45-48; col. 18, lines 43-47; and col. 21, lines 6-8). There is simply no suggestion or motivation in the Tanaka reference to include injection nozzles are spaced apart from the meat subject during an injection operation. Indeed, Tanaka clearly teaches against such configuration.

In light of the foregoing, Applicants respectfully disagree with the Examiner's assertion that Claim 17 is obvious in light of Otsuka and Tanaka because the Examiner has not established a prima facie case of obviousness. Both references teach the need for contact between the nozzles and the subject during an injection operation. Even if the injection section of Otsuka is replaced with the injection manifold of Tanaka, as the Examiner suggests, the combination would not teach the Applicants' invention as presently claimed. In particular, neither

reference teaches or suggests that the injection nozzles are spaced apart from the injection subject during an injection operation, as recited in Claim 17.

Further, there is simply no suggestion, motivation, or teaching in Otsuka or Tanaka alone, or in combination with each other, of a nozzle configuration in which injection nozzles are spaced apart from and do not contact the meat subject during injection of the meat. As illustrated herein, if such a modification was made to either Otsuka or Tanaka, neither reference would work for its intended purpose (i.e. uniform injection of meat without damage to the meat), thus, destroying the underlying function of either reference. Accordingly, Applicants assert that Claim 17 and Claim 23, which is dependent therefrom, are not obvious in light of Otsuka and Tanaka and are believed in condition for allowance.

Accordingly, Applicants believe this application is in condition for allowance. Favorable action, consistent with the preceding, is respectfully requested. Please contact the undersigned if any issue remains. Thank you for your help and consideration.

Respectfully submitted,

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